

BEGUROVANYAN, P.A.

Scattering of X rays in liquids. Part 1. Zhur. tekh. fiz., 34 no. 9:
1660-1665 S '64. (MIRA 17:10)

1. Yerevanskiy gosudarstvennyy universitet.

ACCESSION NR: AP4037620

S/0252/64/038/003/0149/0151

AUTHOR: Kocharyan, N. M. (Corresponding member); Bezirganyan, P. A.; Navasardyan, M. A.

TITLE: Crystallinity of Nairit rubber

SOURCE: AN ArmSSR. Doklady*, v. 38, no. 3, 1964, 149-151

TOPIC TAGS: polychloroprene, Nairit, amorphous Nairit, crystalline Nairit, Nairit stretching, Nairit crystal formation, Nairit crystal orientation

ABSTRACT: In the opinion of numerous Soviet and foreign authors: 1) polychloroprene rubber is amorphous at room temperature and its crystallinity below 15C is negligible; 2) on stretching there is no orientation of already existing crystals but a spontaneous formation of crystals oriented in the direction of the stretch takes place. An x-ray study of Nairit rubber showed that: 1) depending on the polymerization method, Nairit can exist at room

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ACCESSION NR: AP4037620

temperature in an amorphous state, a partly crystalline state with small crystals, and a partly crystalline state with large crystals; 2) stretching of Nairit results in an increase of the dimensions and/or perfection of the existing small crystals, or results in the formation of oriented crystals and the orientation of a portion of the existing crystals in the direction of the stretch. Such an orientation can take place only when the crystals are sufficiently small. Orig. art. has: 3 figures.

ASSOCIATION: none

SUBMITTED: 120Oct63

DATE ACQ: 03Jun64

ENCL: 00

SUB CODE: MT

NO REF Sov: 004

OTHER: 000

Card 2/2

ACCESSION NR: AP4020589

S/0057/64/034/003/0562/0566

AUTHOR: Bezirganyan, P.A.

TITLE: Accuracy of calculations of the intensity of x-rays scattered by liquids and gases

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.3, 1964, 562-566

TOPIC TAGS: x-ray scattering, diffraction, x-ray diffraction, Fraunhofer diffraction, Fresnel diffraction, x-ray scattering by fluids

ABSTRACT: The effect of the finite distance of the observation point from the scattering region on the intensity of scattered x-rays is discussed. Although convergence of the scattered beam to the point of observation is taken into account, the divergence of the primary beam from the x-ray source is not. The path difference between two rays is expanded in a power series in the distance between the two scattering centers. The author has previously discussed the first two terms of this expansion (P.A.Bezirganyan, ZhTF, 32, Nos.1 & 2, 1962). In the present paper he calculates the effect of the third degree term. This term should be important when $r^3 \sim R^2\lambda$, where r is the width of the beam, R is the distance from the scatterer to

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ACCESSION NR: AP4020589

the observer, and λ is the wavelength. With $R = 10$ cm, this condition is fulfilled for x-rays when the beam width is only 0.1 mm. An integral over the scattering region giving the intensity of the scattered beam is written for the case of a gaseous scatterer (no correlation between the positions of the scattering centers), and its behavior is discussed. For large scattering angles, all three approximations (inclusion of one, two, or three terms in the expansion of the path difference) give the same result: the scattered intensity is given by the Thomson formula modified by an atomic form factor. For zero scattering angle, the second and third approximations do not differ greatly, although they both differ considerably from the first. At intermediate scattering angles the third approximation gives a considerably smaller intensity than does the second. Orig.art.has: 19 formulas and 1 figure.

ASSOCIATION: Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: 25Mar63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: PH

NREF SOV: 003

OTHER: 000

Card 2/2

L 10749-65 EWA(k)/ENT(l)/EEC(t) Pa-4 AFWL/AEDC(a)/SSD/ESD(t)/ASD(a)-5/
ASD(m)-3/ESD(c)

ACCESSION NR: AP4046354

S/0057/64/034/010/1895/1900

AUTHOR: Bezirganyan, P.A.

TITLE: Scattering of x-rays by gases, liquids and amorphous solids with the coherence time of the radiation taken into account

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.10, 1984, 1895-1900

TOPIC TAGS: x-ray diffraction, gas, liquid state, amorphous polymer, coherent scattering

ABSTRACT: The influence of the finite coherence time of the primary beam on the x-ray diffraction pattern of an amorphous body is calculated in the Laue approximation on the basis of earlier work of the author (DAN Arm.SSR 37,4,1963; Izv.AN Arm.SSR,Ser.fiz.-mat.17,No.4,1964). The calculation is performed by separating the illuminated region of the scatterer into sections by planes perpendicular to the vector $S = s - s_0$, where s_0 and s are unit vectors in the direction of the incident and scattered beams, respectively, and adding coherently the contributions of the various planes to the scattered beam when and only when they are illuminated by the same coherent wave train. Formulas are derived by which the effect of limited co-

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L 10749-65

ACCESSION NR: AP4046354

herence can be computed for arbitrary scattering angle θ , linear dimension L of the illuminated region, and coherence time $\tau = 3mc\lambda^2/8\pi^2e^2$, where λ is the wavelength, and these are simplified for the two cases that $2L\sin\theta/c\tau$ is much smaller or much larger than unity.. In the former case (very small scattering angles) the finite coherence time has very little effect; but at larger scattering angles the scattered beam is much more intense than it would be if the coherence time were infinite.

Orig.art.hcs: 24-formulas and 3-figures.

ASSOCIATION: Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: 17 Dec 83

ENCL: 00

SUB CODE: OP, NP

NR REF Sov: 002

CITER: 000

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L 15054-55 EWA(k)/EWT(l)/EEC(t)

ACCESSION NR: AP4045277

S/0053/64/034/009/1660/1663

AUTHOR: Bezirganyan, P.A.

TITLE: Scattering of x-rays by liquids. 1.

SOURCE: Zhurnal tehnicheskoy fiziki, v.34, no.9, 1964, 1660-1665

TOPIC TAGS: x-ray scattering, x-ray diffraction, liquid phase

ABSTRACT: The avowed purpose of this paper is to take account of the convergence of the scattered beam in a theoretical treatment of the scattering of x-rays by liquids. The author has previously discussed the scattering of x-rays by gases (ZhTF 32,753,1962; 33,118,1963; 34,110,1964). The equation for the "third approximation" to the intensity of the scattered waves is taken from this earlier work without further explanation. Abstracter's note: The notation is also taken from the earlier work without adequate explanation, although much of it is standard. It is not clear how the convergence of the scattered beam enters the picture. There are two diagrams that may be intended to clarify this point, but these are themselves inadequately explained. The intensity of the scattered beam is evaluated to the "second approximation" for scattering from a liquid with a given correlation function. The

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ACCESSION NR: AP4045277

result is expressed as the sum of two terms, each involving an integration over the correlation function, of which the first is well-known and the second is appreciable only for long-range ordering in the liquid and for small scattering angles. It is suggested that this correction term may be important for macromolecular liquids and fibrous materials. The condition that the correction term be appreciable is given as $1/k^2 r^4 < 1$, where k is the wave number and r is the range of order in the liquid. *Abstracter's note:* This is not dimensionally correct. An examination of the equations indicates that the criterion should be $R^2/k^2 r^4 < 1$, where R is the radius of the illuminated portion of the liquid. How the convergence of the scattered beam is involved in the result (if at all) is not clear.⁷ Orig.art.has: 42 formulas and 2 figures.

ASSOCIATION: Yerevanskij gosudarstvennyj universitet (Yerevan State University)

SUBMITTED: 10Jun63

ENCL: CC

SUB CODE: CP

NR REF SCV: 005

OTHER: CCC

2/2

BEZIRGANYAN, P.A.

X-ray diffraction in fibrous substances. Zhur. tekh. fiz. 39 no.1:
110-114 Ja '64. (MIRA 17:1)

1. Yerevanskiy gosudarstvennyy universitet.

L 34172-65 EWT(l)/EWT(m)/EPR/T/EWP(t)/SEC(b)-2/EWP(b)/EWA(c) Ps-L IJP(c)
JD

ACCESSION NR: AP5005168

S/0022/64/017/006/0137/0139
36
37
B

AUTHOR: Bezirganyan, P. A.; Zazyan, Z. F.; Ayundzhyan, V. I.

TITLE: Method of preparing aluminum single crystals with reflecting-plane curvature half the smallest surface curvature

SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, v. 17, no. 6, 1964, 137-139

TOPIC TAGS: aluminum crystal, single crystal, reflecting plane, bent crystal,
x ray analyzer
24

ABSTRACT: This is a continuation of earlier work by one of the authors (Zav. laborat., v. 29, no. 2, 1963; also Bezirganyan and N. S. Andreyeva, Zhurnal tekhnicheskoy fiziki, v. 24, no. 12, 1954) in which it was shown that aluminum single crystals produce strong reflections from the [111] planes, with intensity ~ 50--70 times larger than reflections from quartz single crystals ([1010] planes). In this article the authors report on a method they developed for preparing aluminum single crystals with reflecting planes having half the curvature of the crystal planes. The relation of the reflecting plane to the crystal surface is illus-

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ACCESSION NR: AP5005168

trated in Fig. 1 of the Enclosure. Polycrystalline aluminum plates measuring 200 x 30 x 0.4 mm were annealed at 600°C for 5 minutes, stretched 2--3 $\frac{1}{2}$ in length, and then bent to form a cylindrical surface whose generatrices were directed along the broad edge of the plate. The single crystals with reflecting plane orientations were produced from these polycrystals by recrystallization, using a method described earlier. The single crystal growth was such that the unbent planes were perpendicular to the central radius of the cylinder. The crystal was then bent further to double its initial curvature, thus yielding a bent crystal in which the reflecting plane curvature was half the curvature of the surface. When the radius of curvature of the reflecting planes is 60 cm, the focus produced by the crystal is of the order of 0.3--0.4 mm. While it is difficult to grow single crystals with prescribed orientation of reflecting planes, it is relatively simple to grow a large number of crystals with random orientation, and subsequently select those with principal planes [111], [100], or [101] parallel to the axis of the cylindrical surface. Out of 20 grown crystals, approximately two or three have the required orientation. Orig. art. has: 3 figures.

ASSOCIATION: Yerevanskiy gesudarstvennyy universitet (Yerevan State University)

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L 34172-65
ACCESSION NR: AP5005168

SUBMITTED: 15Apr64

ENCL: 01

SUB CODE: SS, OP

NR REF Sov: 002

OTHER: 000

Card 3/4

L 34172-65
ACCESSION NR: AP5005168

ENCLOSURE: 01

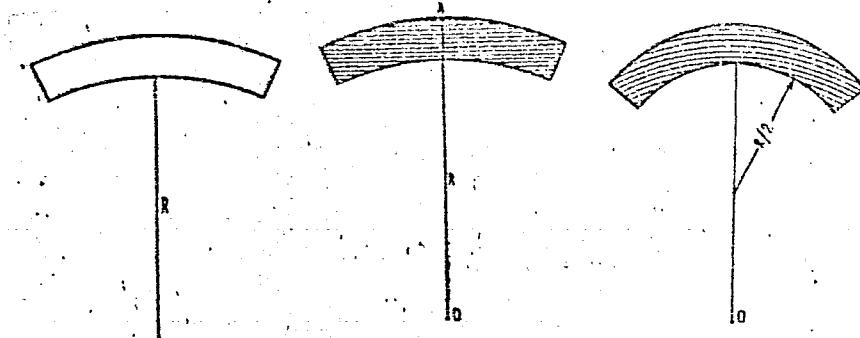


Fig. 1. Diagram of bent crystal. Left - polycrystalline cylindrical sample, center - reflecting planes bent and perpendicular to central radius (OA), right - reflecting planes bent along cylindrical surface of radius A, while the crustal surface has a curvature radius R/2

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L 33174-65 ERA(k)/EWT(1)/EEC(t)
ACCESSION NR: AP5003243

8/0057/65/035/002/0359/0237

AUTHOR: Bezirganyan, P.A.

TITLE: Scattering of x-rays from a point source by gases, liquids and amorphous solids with the finite duration of coherent radiation taken into account

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.2, 1965, 359-367

TOPIC TAGS: x ray diffraction, amorphous substance, coherence time

ABSTRACT: The author has previously calculated the diffraction of plane x rays by an amorphous scatterer in the first (Laue) approximation with the finite coherence time of the beam taken into account (ZhTF 34, 1895, 1964). In the present paper he extends this calculation to the second approximation and places the point x-ray source (as well as the point of observation) at a finite distance from the scatterer. The calculation is straightforward, the approach being similar to that of the previous calculation. Coherence time effects can be neglected when the length of the coherent wave train is large compared with the dimensions of the scatterer. In this case the zero-angle scattered intensity is an oscillating function of the size

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L 33174-65

ACCESSION NR: A/P5005243

of the scatterer and approaches a constant value as the scatterer becomes large compared with the width of the first Fresnel zone. The large angle scattering, on the other hand, increases with increasing scatterer size. When the coherence time is short and must be taken into account, its effect may be either to increase or to decrease the zero-angle scattered intensity, but only to decrease it if the scatterer is smaller than the first Fresnel zone. Orig.art.has: 42 formulas and 5 figures.

ASSOCIATION: Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: 18Apr64

ENCL: 00

SUB CODE: OP

NR REF SOW: 006

OTHER: 001

Card 2/2

L 33173-65 EWA(k)/EST(1)/EEC(t)
ACCESSION NR: AP5005244

8/0057/65/035/002/0368/0375

10
9

AUTHOR: Bezirganyan, P.A.

TITLE: Scattering of plane x rays by gases, liquids and amorphous solids with the finite duration of coherent radiation taken into account

SOURCE: Zhurnal tehnicheskoy fiziki, v.35, no.2, 1965, 368-375

TOPIC TAGS: x ray, diffraction, amorphous substance, coherence time

ABSTRACT: In an accompanying paper (ZhTF 35,359,1965 [see abstract AP500522]) the author has calculated the diffraction of x rays by an amorphous scatterer in the second approximation with the point source and the observation point located at finite distances from the scatterer and the effect of the finite coherence time of the beam taken into account. In the present paper the calculations are repeated for the case of an x-ray source located at infinity. The two calculations are strictly parallel and it appears likely that the formulas of the present calculations could be obtained from those of the previous ones by a limiting process. The conclusions are the same as those of the previous paper and are not repeated, the

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ACCESSION NR: AP5005244

reader being simply referred to the other paper. Trivial differences between the two cases are mentioned. Orig.art.has: 39 formulas and 3 figures.

ASSOCIATION: Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: 20Apr64

ENCL: 00

SUB CODE: OP

NR REF SGV: 005

OTHER: 000

Card 2/2

BEZIRGANYAN, P.A.

Effect of the nonparallelity of fibers on the X-ray diffraction
pattern of X rays. Vysokom. scad. 7 no.3:397-403 Mr '65.

(MIFI A 18:7)

1. Yerevanskiy gosudarstvennyy universitet.

L 3617-66 EWA(k)/EMT(1) LHB
ACCESSION NR: AP5024055

UR/0057/65/035/008/1701/1706
557.531:535.3

AUTHOR: Bezirganyan, P. A.

TITLE: Scattering of x-rays by a gas consisting of molecules of finite size with the coherence length of the radiation taken into account

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1701-1706

TOPIC TAGS: x ray diffraction, gas, molecular volume, mathematic physics

ABSTRACT: The author has been engaged for some time in the calculation of x-ray diffraction under various circumstances with the finite coherence time of the incident radiation taken into account (Izv. AN Arm.SSR, ser. fiz.-mat.; ZHTF, 32, No.6, 1962; ZHTF, 34, No.10, 1964). In the present paper he calculates the diffraction by a gas consisting of molecules of finite size. The finite size of the molecules is taken into account by assuming that the probability per unit volume of finding a molecule at a distance r from a given molecule is zero for r less than R and constant for r greater than R , where R is determined by the molecular size. The calculation is performed by the method developed in the earlier papers, the necessary formulas being simply quoted and not derived anew. It is found that the

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L 3617-66
ACCESSION NR: AP5024055

finite coherence time decreases the intensity of the diffraction halo but does not alter its angular distribution. Orig. art. has: 24 formulas and 1 figure.

ASSOCIATION: Yerevanskiy gosudarstvennyy universitet (Yerevan State University)

SUBMITTED: 09Nov64

ENCL: 00

SUB CODE: OP

NR REF Sov: 003

OTHER: 001

mlor
Card 2/2

The last message (6)

DOI: <https://doi.org/10.1017/S0008026217000037>

REVIEW: Avakyan, V. E.; Bezhikyan, V. A.

6.2. Yerevan State University (Yerevanskii gosudarstvennyy universitet)

STUDY: Determination of the direction of piezoelectric oscillations with the aid of an X-ray diffraction pattern

SOURCE: AN AMER. DOKLADY, V. 42, NO. 5, 1966, 284-287

TOPIC TAGS: piezoelectric crystal, x ray diffraction study, crystal imperfection, quartz, crystal lattice vibration

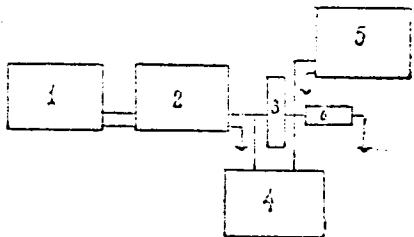
ABSTRACT: The authors developed an installation wherein the direction of the piezoelectric oscillations can be determined from the x-ray diffraction pattern (Fig. 1). Its operation is based on the fact that the double line spots observed in perfect crystals disappear when the perfection of the crystal is destroyed, for example by means of piezoelectric oscillations, and that the vanishing of the double spots becomes more intense and faster the closer the direction of the piezoelectric oscillations to the direction of the normal of the reflecting planes. The tests were made on an x-cut quartz rod measuring 27 x 3 x 3 mm, whose mechanical (Y), electrical (X), and optical (Z) axes were oriented along the length, thickness, and width, respectively. The oscillations at the fundamental natural frequency in the Y direction were

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L 09401-67

ACC NR: AP0028593

Fig. 1. Block diagram of quartz oscillations:
 1 -- signal generator, 2 -- amplifier, 3 --
 quartz, 4 -- voltmeter, 5 -- oscilloscope,
 6 -- resistance.



obtained from a signal generator. The electric alternating field was directed along the X axis. A narrow x ray beam directed along the Z axis was incident on the XY plane, and the x ray film was placed perpendicular to the primary beam. The experiment has shown that the excited oscillations influenced only the intensity of the Lane spots located on the upper part of the Lane pattern (above the equatorial line), showing that the oscillations were not actually aligned with the X direction but made some angle with the axis. This agrees with observation by others that in ordinary X-cut crystals the maximal amplitude occurs at 19° relative to the Y axis. It is concluded that the diffraction pattern will make it possible to determine the true direction of the piezoelectric oscillations with sufficient accuracy, and the Lane patterns can be used to determine the spatial distribution of the oscillation amplitudes and thus determine the spatial distribution of the elastic constants. This report was presented by Corr. Member AN ARMSSR N. M. Kocharyan 19 October 1965. Orig. art. has: 4 figures.
 JCS CDSIS: 10/ SCIAK DMR: 03/ CMC REF: 001/ CIA REF: 006

' Card 2/2

L 34352-66 EWT(m)/EWP(j) IJP(c) RM

ACC NR: AP6002675

(A) SOURCE CODE: UR/0252/65/041/004/0216/0220

AUTHOR: Kocharyan, N. M. (Corresponding member AN Ar^mSSR); Rapyan, Yu. A;
Bezirganyan, P. A.

ORG: Central Physical-Technical Scientific-Research Laboratory, AN Ar^mSSR
(Tsentral'naya fiziko-tehnicheskaya nauchno-issledovatel'skaya
laboratoriya AN Ar^mSSR); Yerevan State University (Kerevanskiy
gosudarstvennyy universitet)

TITLE: Dependence of the X-ray diffraction pattern of high molecular com-
pounds on the thickness of the sample

SOURCE: AN Ar^mSSR. Doklady, v. 41, no. 4, 1965, 216-220

TOPIC TAGS: chloroprene, x ray diffraction pattern, crystal structure
analysis, rubber

ABSTRACT: The thickness of a sample of chloroprene caoutchouc MARIT
affected the X-ray diffraction patterns taken to determine its structure.
The diffraction pattern obtained from thick film (1.65 mm) had only one
intense halo typical of amorphous bodies. A noticeable decrease in
intensity of the diffraction halo and the appearance of a wide ring were
observed in the pattern taken from a sample 0.95 mm thick. The pattern

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ACC NR: AP6002675

of a sample 0.5 mm thick was characterized by the appearance of diffraction rings typical of the crystalline phase, by splitting of the wide ring into three separate rings and by further decrease in intensity of the diffraction halo. At a thickness of 0.13 mm, the diffraction halo almost disappeared and the intensity and number of rings, indicating crystallinity, increased. It seemed that the percentage of crystalline phase in the film depended on its thickness. However, an investigation of samples consisting of several layers of thin films (0.13 mm) cut by a razor blade from the same thick film disproved this conclusion. The X-ray diffraction patterns of these samples showed that, with an increased number of layers, the intensity of lines characterizing the crystalline phase decreased; and in samples consisting of 10 layers the diffraction pattern suggested an amorphous structure. It was therefore concluded that intensities of lines characteristic of amorphous and crystalline phases of caoutchouc NARIT depended on the thickness of the sample. The thin samples should be studied for the detection of the crystalline phase. When determining the percentage content of crystalline phase in the sample, the effect of sample thickness on the relative amount of lines characterizing amorphous and crystalline phases should be taken into consideration. Orig. art. has: 11 fig.

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002

Card 2/2 ULR

L 25493-66 EWT(1) LHB

ACC NR: AP6011399

SOURCE CODE: UR/0057/66/036/003/0515/0520

AUTHOR: Bezirganyan, P.A.46
BORG: Yerevan State University (Yerevanskiy gosudarstvennyy universitet)TITLE: Dynamical theory of x-ray interference with the duration of coherent radiation taken into accountSOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 3, 1966, 515-520

TOPIC TAGS: x ray diffraction, x ray scattering, crystal lattice, ideal crystal, light reflection coefficient, coherent light

ABSTRACT: The author repeats the early calculation of C.G. Darwin (Phil. Mag., 27, 315, 675, 1914) of the diffraction of x rays from an infinitely thick ideal crystal, taking into account the finite coherence time of the beam. He also finds that Darwin's conclusion that the forward-scattered and reflected waves from a single lattice plane differ in phase by 90° violates energy conservation and, accordingly, corrects this shortcoming of the early calculations. Owing to the finite length of the coherent wave train, only a finite number of lattice planes contribute to formation of the interference pattern at any instant and the expression for the scattered intensity involves a finite sum. This summation is performed and the final formula is thereby somewhat simplified, although it still remains rather involved. It is found that the maximum intensity of the reflected beam does not occur at the Bragg angle; a

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UDC: 548.732

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ACC NR: AP6011399

formula is given for the difference between the Bragg angle and the true angle for maximum reflected intensity. The maximum reflection coefficient is less than unity. It is estimated that the maximum coefficient for reflection of Mo K α_1 radiation by the (211) planes of a thick ideal calcite crystal is 0.62. This estimate is based on the value 2.4×10^{-16} sec for the coherence time of the radiation, which was calculated with the formula $A\lambda^2$ where λ is the wavelength and $A = 4.7$ sec/cm 2 . Orig.art. has: 24 formulas and 2 figures.

SUB CODE: 20 SUBM DATE: 03Apr65 ORIG.REF: 003 OTH REF: 002

Card 2/2 CV

L 32364-63 E.T(1) I.M.E.(c) WW
ACC NR: AR6016149

SOURCE CODE: UR/0058/65/000/011/A019/A019

AUTHOR: Rostomyan, A. G.; Bezirganyan, P. A.

TITLE: Dependence of the reflecting part of a crystal analyzer and the width of a spectral line on the shape and dimensions of the x-ray source. Communication I.

SOURCE: Ref. zh. Fizika, Abs. 11A219

REF SOURCE: Yerevani amalsaran. Gitakan tegekagir, Uch. zap. Yerevansk. un-t, v. 93, 1964, 9-19

TOPIC TAGS: x ray spectrum, spectral line, spectrum analyzer, spectrometer, crystal detector, x ray diffraction

ABSTRACT: The geometrical shape of the sections of the first and second crystals of a two-crystal spectrometer participating in the formation of a monochromatic diffraction image of the spectral line, and also the width and shape of this line were investigated, on the basis of the kinematic theory of x rays, as functions of the dimensions of the source, the equality or inequality of the reflection orders n_1 or n_2 , and the sign of n_2 . It is shown, in particular, that in the case of a point-like source the effective part of the first crystal, and also of the stationary second crystal in the position $(n_1 - n_2)$ is for $n_1 = n_2$ a circle whose radius depends on the diffraction angle and on the distance of the first crystal from the source; the effective part of the stationary second crystal in the position $(n_1 - n_2)$ is a point for $n_1 \neq n_2$ and for all the positions (n_1, n_2) . In position $(n_1, -n_2)$ with $n_1 \neq n_2$,

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the second crystal does not improve the quality of the spectral line. The angular width of the line, obtained by the formula $\Delta\phi = (\Delta\phi)_{1,1} - (\Delta\phi)_{1,-1}$ is larger than its natural width. M. Blokhin. [Translation of abstract] 0

SUB CODE: 20

Card 2/2 D

898. Кандидат в архитекторы Юлий Григорьевич Борисов. Род. 1919 г. в селе Борисово, Тульской обл. [13 Ст.] 270. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
- Художник Николай Георгиевич Фадеев и строительный инженер Петров Николай Петрович. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
210. С. Ильин [1] Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
899. Художник Николай Георгиевич Фадеев и строительный инженер Петров Николай Петрович. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
- Дипломат Ольга Ильинская. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
900. Академик Мирза Кочум Огами. К изобретению поправки наименования имена Кочума. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
901. Библиотекарь Елена Константиновна Железникова. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
902. Техник Нина Федоровна Тарасова. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
903. Техник Елена Константиновна Железникова. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
904. Калачевская Тамара Григорьевна. Художница-живописец. Род. 1919 г. в селе Борисово Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
905. К. Георгиев Вардан Варданович. Преподаватель в разработке бурговской технологии. Род. 1919 г. в деревне Георгиевка Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
906. К. Георгиев Вардан Варданович. Преподаватель в разработке бурговской технологии. Род. 1919 г. в деревне Георгиевка Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
907. Кузнецова Елизавета Васильевна. Основание промышленности в Азии. Род. 1919 г. в деревне Георгиевка Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
908. Тарасова Елена Константиновна. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
909. Тарасова Елена Константиновна. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3
910. Уланова Мария Денисовна. Род. 1919 г. в деревне Фадеево в селе Красное Борисовской области. [13 Ст.] 300. К. 60. Акн. № 141. к. 9. д. 379. (Генератор, очистка).
Зап. 1940, 4.3

710
Distribution for Agents of
Geological Geological Sciences

Def. at
Tbilisi State U.

BEZIS, YA.M.

Bee culture - Equipment and Supplies

Frame-incubator for keeping queens
Pchelovodstvo 29, no. 9, 1952

BEZJAK, H.

The crystal and molecular structures of phthalimidic acid¹

Volume 25, Number 12, December 1973
K. S. V. Reddy, R. D. Johnson, and G. B. Carpenter
Chemical Materials Research Department, Research Triangle Institute,
Research Triangle Park, North Carolina 27709, U.S.A.
The space group is C_{2h}^{11} , $a = 11.1 \text{ \AA}$, $c = 11.2 \text{ \AA}$.
The d₁ by flotation is 1.41 g/cm³.
The structure was deduced from projections on the $\bar{1}\bar{1}0$ plane obtained by direct
methods. The current model is shown below.



as was deduced by V. Hahn (private communication). The
methyls are joined by N-H-C=O bonds of length about
 2.82 \AA , between atoms in the urea portions.

G. B. Carpenter

(1)

K
R

BEZJAK, A.

A direct sign-determining method based upon Fourier series, A. Bezjak (Rudjer Bošković Inst., Zagreb, Yugoslavia). Acta Cryst. 12, 765-70(1959).—New functions $G(H,\xi)$ and $K(H,\xi)$ derived by application of Fourier series with the coeffs. depending on unitary structure factors $U(H)$ are introduced and a method for their use for sign detn. is suggested. For all ξ within the interval $\xi_{\min} < \xi < 1/4$, where ξ_{\min} is a structure-dependent parameter, the conditions $G(H,\xi) = 0$ are satisfied only when the correct signs are allotted to the coeffs. The method was successfully applied to a hypothetical centrosymmetric structure for which the signs of $U(h00)$ for all h from 1 to 16 were detd. A generalization of the functions, which permits gradually including all $U(hkl)$ in the computation also is suggested.
W. Nowacki

3

81m

BEZJAK, A.

X-ray quantitative analysis of multiphase systems.
Croat chem acta 33 no.4:197-200 '61.

1. Research Department, Association of Yugoslav
Cement Producers, Zagreb, Croatia, Yugoslavia.

BEZZAK, A.; FRIS-GACESA, T.; UZELAC, V.; ARAPOVIC, I.

The quantitative X-ray analysis of bauxite. I. The system
hydrargillite-boehmite-goethite-haematite. Croat chem acta 34
no.1:51-64 '62.

1. Institute of Light Metals, Zagreb, Croatia, Yugoslavia.

BEZJAK, A.; JELENIC, I.; MARICIC, S.; MEIC, Z.

An X-ray and proton magnetic resonance study of the dehydration
and deuteration of borax, $Ni_2[B_4O_5(OH)_4] \cdot 8H_2O$. Croat chem
acta 35 no.4:295-303 '63.

1. Institute "Ruder Boskovic", Zagreb, Croatia, Yugoslavia.
2. Member of the Editorial Board, "Croatica Chemica Acta"
(for Maricic).

MIHALJEVIC, F.; MALISEVAC, J.; HEZJAK, B.; HEZJAK, V.; CVJETANOVIC, B.
FRAS, I.

Tularemia in Croatia. Higijena, Beogr. 6 no.2:129-150 1954.

1. Bolnica za zarazne bolesti; Zavod za mikrobiologiju Medicinskog
fakulteta, Škola narodnog zdravlja, Institut za veterinarskomedicinska
istrasivanja, Zagreb.

(TULAREMIA, epidemiol.
Yugosl.)

FALISEVAC, J. dr.; BEZJEM, B.dr.

Psittacosis (ornithosis). Lijec. vjes. 76 no.1-2:1-7 1954.

1. Iz Bolnice za zarazne bolesti u Zagrebu.
(ORNITHOSIS

*psittacosis, in Yugosl., first case)

BEZJAK, B.; FALISEVAC, J.

Tetanus in the People's Republic of Croatia from an epidemiological and clinical point of view. Arh.hig.rada 6 no.2:115-133
1955.

1. Bolnica za zarazne bolesti, Zagreb.

(TETANUS.

incidence, clin.aspects, ther. & prev. in Croatia,
Yugosl.(Ser)

BEZJAK, Branko, Dr.

Present-day treatment of tetanus. Lijec. vjes. 77 no.5-7:
331-337 May-July 55.

1. Iz Bolnice za zarazne bolesti u Zagrebu. From the Fever Hospital
of Zagreb.

(TETANUS, ther.
mephenesin, value (Ser))
(MYPHENESIN, ther. use,
tetanus, value (Ser))

BEZJAK, Branko, Dr.; KATUMARIC, Dusko, dr.

Internal forms of tularemia. Lijec. vjes. 78 no.5-6:209-
219 May-June 56.

1. Iz Klinike za zarazne bolesti i Zavoda za rentgenologiju
Opće bolnice dr. Stojanovica u Zagrebu.
(TULAREMIA, manifest.
internal, case reports (Ser))

BLAŠAK, B.

Disease to lungs caused by glass wool. Arh. hig. rada 7 no.4:333-343
1956.

1. Bolnica za zarazne bolesti, Zagreb. adres: Fever Hospital, Zagreb.
(PNEUMOCOONIOSES, etiol. & pathogen.
glass wool, brev. & diag. (Ser))

BEZJAK, Branko; BEZJAK, Vladimir; FANJEK, Josip; ZIMOLO, Anton

Tularemia in Croatia in 1954. Radovi Med. fak. Zagrebu 3:
173-187 1955.

1. Iz Bolnice za zarazne bolesti u Zagrebu (sef prof. dr. Fran Mihaljevic), Zavoda za mikrobiologiju Medicinskog fakulteta u Zagrebu (pred. :prof. dr. Dora Filipovic), Epidemioloskog odjela Centralnog higijenskog zavoda u Zagrebu (direktor dr. Ivo Brodarec) i Zavoda za patolosku anatomiju Medicinskog fakulteta u Zagrebu pred. :prof. dr. Zvonimir Kopac.

(TULAREMIA, epidemiology,
in Yugosl.)

BEZJAK, Branko, Dr.

~~Infectious mononucleosis.~~ Lijec. vjes. 78 no.7-8:343-350
1956.

1. Iz Bolnice za zarazne bolesti u Zagrebu.
(INFECTIONOUS MONONUCLEOSIS
(Ser))

BEZJAK, Branko, Dr.

Orisul in the treatment of dysentery. Lijec vjes 82 no.11:851-855 '60.

1. Iz Bolnice za zarazne bolesti u Zagrebu
(DYSENTERY BACILLARY ther)
(SULFONAMIDES ther)

MIHALIEVIC, Frane, dr.; BACUN, Marija, dr.; ~~HEZAK~~, Branko, dr.; FERLJUGA,
Cvijeta, dr.; HELLENBACH, Helena, dr; KNEZEVIC, Mira, dr.;
KOSUTIC, Zvonko, dr.

Bornholm disease in Yugoslavia. Lijecn. vjesn. 83 no.8:771-781
'61.

1. Iz Bolnice za zarazne bolesti u Zagrebu.
(PLEURODYNIA EPIDEMIC epidemiol)

BEZZJAK, Branko, dr.; KOSUTIC, Zvonimir, dr.; MIRTZLER, Raoul, dr.

Bilharziasis. Lijecn. vjesn. 84 no.9:901-909 '62.

1. Iz Bolnice za Zarazne bolesti i Zavoda za patologiju i patolosku
anatomiju Medicinskog fakultata u Zagrebu.
(SCHISTOSOMIASIS)

5

YUGOSLAVIA

BEZJAK, Dr Branko, and Dr Vladimir BILITENFELD, Hospital for Infectious Diseases (Bolnica za Zarazne Bolesti), Zagreb.

"The Treatment of Intestinal Amoebiasis with 'Entobex'."

Zagreb, Lijecnicki Vjesnik, Vol 85, No 4, April 1963, pp 389-394.

Abstract: Authors' English summary modified. Entobex, given orally for 8 days in daily doses of 300 milligrams to 98 sufferers from chronic intestinal amoebiasis, resulted in clinical improvement in 49 cases. No determination was possible in 43 cases where a quiescent phase of the illness was involved. There were only four failures in terms of clinical effect. The infection cleared immediately after treatment in 97.7 percent of the patients. Parasitological relapse occurred in 10 of 36 patients subjected to follow-up study in three to 24 months. The drug failed to cure the concomitant *Lamblia* infection in seven of nine patients. No side effects were noted. Fourteen references, mostly [1/1] Western.

FALISEVAC, Josip, dr.; RULNJEVIC, Juraj, dr.; BEZJAK, Branko, dr.;
HELENBACH, Helena, dr.; BREITENFELD, Josip, dr.

Clinical considerations on tick-borne meningoencephalitis.
Lijecn. vjesn. 86 no.1:25-34 Ja'64

1. Iz Bolnice za zarazne bolesti u Zagrebu

S

MIMICA, M.; URGIC, Z.; BULJAK, B.

Cytology of the bowel exudate in ulcerative colitis and bacillary dysentery. Acta med. Jugosl. 18 no. 201, 1971.

1. Department of Medicine and Department of Infectious Diseases, Medical Faculty, University of Zagreb, Zagreb.

FALISEVAC, Josip, prof. dr.; BEZJAK, Branko, prof. dr.; KRSIC, Bozica, dr.;
ALERAJ, Dora, dr.; DRAGAS, Zlata, dr.; HRABAR, Ante, dr.

Our experience with the treatment of typhoid fever carriers.
Med. glas. 19 no.8/9:194-198 Ag-S '65.

1. Bolnica za zarazne bolesti u Zagrebu (Sef liječnik: prof.
dr. F. Mihaljević) i Republicki zavod za zastitu zdravlja u
Zagrebu (Direktor: dr. I. Brodarec).

BEZJAK, Branko, dr.; BREITENFELD, Vladimir, dr.; CEKIC, Jelena, dr.;
KRSNJAVI, Bogdan, dr.; MAZURAN, Dragan, dr.

Infectious mononucleosis. Result of prospective studies.
Lijecn. vjesn. 87 no.7:725-737 Jl '65.

1. Iz Bolnice za zarazne bolesti i Republickog zavoda za
zastitu zdravlja u Zagrebu.

YUGOSLAVIA

HUZIAK, Dr. Tomislav and BEZJAK, Dr. Branko; Department of Infectious Disease, Medical Center (Zaražni odjel Medicinskog centra), Karlovac; and Infectious Diseases Hospital (Bolnice za zaražne bolesti), Zagreb.

"Filariasis Loa - Report of Two Cases."

Zagreb, Lijecnicki Vjesnik, Vol 87, No 10, Oct 1965; pp 1105-1111.

Abstract [English summary modified]: Description of cases of filariasis loa in a 5 year old girl and her 64 year old grandmother who had spent some months in the French Congo in 1960 visiting their aunt (i.e. the grandmother's daughter) who is married to a European working there. Uneventful recovery after diethylcarbamazine treatment. 2 tables, photomicrographs, 2 Western and 7 Yugoslav references. Manuscript received 13 Oct 65.

1/1

BEZJAK, VLADIMIR.

BEZJAK, Vladimir

Levuriform fungi isolated from patients in Zagreb. Radovi Med.

fak. Vol.1:107-111 1953.

1. Zavod za mikrobiologiju Medicinskog fakulteta u Zagrebu
(predstojnik: prof. dr. D. Filipovic)

(MONILIA

*isolation)

(CRYPTOCOCCUS

*neoformans, isolation from patient with diffuse peritonitis)
(YEASTS

*yeast-like fungi, isolation)

BEZJAK, Vlado

FALISHEVAC, Josip, dr.; BEZJAK, Vlado, dr.

Moniliasis caused by antibiotic therapy. Med. glasn. 8 no.2:
48-50 F '54.

1. Bolnica za zarazna bolesti u Zagrebu (sef-liječnik prof. dr. F.Mihaljević) Zavod za mikrobiologiju Medicinskog fakulteta u Zagrebu (prestojnik prof. dr. D.Filipović) Centralni higijenski zavod u Zagrebu (direktor dr. I.Brodarec)

(ANTIBIOTICS, inj. eff.

*moniliasis)

(MONILIASIS, etiol. & pathogen.

*antibiotics)

Differentiation of *Corynebacterium diphtheriae* of the initial type found in diphtheria and ozena. I. Biochemical properties. Vladimir Bezak (Univ. Zagreb, Yugoslavia). *Antonie van Leeuwenhoek Microbiol.*, 20, 269-72 (1951).--Of the strains isolated from ozena cases, all 77 were found not to reduce nitrate while 63 strains from diphtheria cases were found to do so. S. W. Bowe, Jr.

MIHALJEVIC, F.; PALISEVAC, J.; BEZJAK, B.; BEZJAK, V.; CVJETANOVIC, B.
FRAS, I.

Tularemia in Croatia. Higijena, Beogr. 6 no.2:129-150 1954.

1. Bolnica za zarazne bolesti; Zavod za mikrobiologiju Medicinskog
fakulteta, Skola narodnog zdravlja, Institut za veterinarskomedicinska
istrazivanja, Zagreb.
(TULAREMIA, epidemiol.
Yugosl.)

BEZJAK, Vladimir

Types of *Corynebacterium diphtheriae* in patients and carriers
in Zagreb during 1952-1953. Higijena, Beogr. 6 no.2:164-169 1954.

1. Mikrobiolski institut Medicinskog fakulteta, Zagreb; Centralni
higijenski zavod, Zagreb.
(*CORYNEBACTERIUM DIPHTHERIAE*
typing of strains isolated in Yugosl.)

BEZJAK, Vladimir

Sensitivity of strains of *Staphylococcus pyogenes* isolated in Zagreb to penicillin and sulfadiazine. Higijena, Beogr. 6 no.3-4: 304-309 '54.

1. Dept. of Microbiology, Faculty of Medicine, University of Zagreb.

(MICROCOCCUS PYOGENES, effect of drugs on,
penicillin & sulfonamides)

(PENICILLIN, effects,
on Micrococcus pyogenes)

(SULFONAMIDES, effects,
on Micrococcus pyogenes)

Ustrojstvo i rad u Zagrebu

BEZJAK, Branko; BEZJAK, Vladimir; FANJEK, Josip; ZIMOLO, Anton

Tularemia in Croatia in 1954. Radovi Med. fak. Zagrebu 3:
173-187 1955.

1. Iz Bolnice za zarazne bolesti u Zagrebu (sef prof. dr. Fran Mihaljevic), Zavoda za mikrobiologiju Medicinskog fakulteta u Zagrebu (pred. :prof. dr. Dora Filipovic), Epidemiološkog odjela Centralnog higijenskog zavoda u Zagrebu (direktor dr. Ivo Brodarec) i Zavoda za patolosku anatomiju Medicinskog fakulteta u Zagrebu pred. :prof. dr. Zvonimir Kopac.

(TULAREMIA, epidemiology,
in Yugosl.)

BEZJAK, V.

Incidence of yeast-like fungi in oral cavity. Acta med. jugosl.
8 no.2:200-204 1954.

1. Zavod za Mikrobiologiju, Medicinski fakultet Zagreb, Centralni
higijenski zavod, Zagreb.

(MOUTH, bacteriol.

yeast-like fungi)

(FUNGI

yeast-like fungi, distribution & frequency in mouth)

(YEASTS

yeast-like fungi, distribution & frequency in mouth)

BEZJAK, V.

Direct cultivation of *P. tularensis* from patients with tularemia.
Acta med. jugosl. 8 no.3:269-274 1954.

1. Zavod za Mikrobiologiju Medicinskog fakulteta, Zagreb, Centralni
higijenski zavod, Zagreb.
(*PASTEURELLA TULARENSIS*, culture
direct culture from pathol. specimens)

BEZJAK, Vladimir

Studies on *Corynebacterium diphtheriae*. Radovi Med. fak.
Zagrebu 3:201-221 1956.

1. From the Institute of Microbiology, Medical Faculty,
University of Zagreb.
(*CORYNEBACTERIUM DIPHTHERIAE*,
(Ser))

BEZJAK, V.

In vitro sensitivity to mystatin of potentially pathogenic
Candida. Higijena, Beogr. 8 no.4:269-272 1956.

1. Zavod za mikrobiologiju Medicinskog fakulteta, Zagreb, i
Centralni higijenski zavod u Zagrebu.

(MONILIA, effect of drugs on,
mystatin, resist. of potentially pathogen. strains (Ser))

(ANTIBIOTICS, effects,
mystatin on Monilia, resist. of potentially pathogen.
strains (Ser))

BRZIĆ JAKOV

JUNG, M.; BRZIĆ, V.

Method for determination of in vitro toxicity of Corynbacterium diphtheriae. Higijena, Beogr. 8 no.4:277-287 1956.

1. Zavod za mikrobiologiju Medicinskog fakulteta Sveucilista u Zagrebu.
(CORYNBACTERIUM DIPHThERIAE,
in vitro toxicity determ. technic (Ser))

BEZJAK, V.

Mycotic flora in the air in the City of Rijeka and its comparison
with the City of Zagreb. Arh hig rada 11 no.4:299-305 '60.

1. Zavod za mikrobiologiju, Medicinski fakultet u Rijeci.

(AIR microbiol) (FUNGI)

REZKABILITI, L.V. kind, biolog. nauk

Infection of the aerial parts of trees. Agrobiologia
no.5/738-744 S-0 '65.
(MIRA 18;9)

1. Gosudarstvennyy Nauk. Botanicheskiy sad, Yalta.

TYKVA, P., inzh.; BEZKARAVAYNYY, O., inzh.

Manufacture of prestressed wire-reinforced concrete trusses in
one piece with a span of 30 m. Bud. mat. i konstr. 4 no.2:
6-14 Mr-Ap '62. (MIRA 15:9)
(Trusses) (Prestressed concrete)

BEZKARAVAYNY, V.G.

Stability of heterogenous pillars. Zap. LGI 49 no.1:67-71 '64.
(MIRA 18:8)

BEZKHLEBNYY, A.I. [Bezhlibnyi, O.I.]

Stimulation of root formation in cucumber cotyledons by phytogenic organic substances from the air. Ukr.bot.zhur. 17 no.1:46-50 '60. (MIRA 13:6)

1. Stalinskiy medinstitut, kafedra biologii.
(Cucumber)
(Growth promoting substances)
(Roots (Botany))

VLASOVA, K.D.; BEZKEMEL'NITSINA, I.A.; MEZENTSEVA, A.G.; SIROTINA, O.S.;
TAFINTSEVA, I.A.

Clinical statistical analysis of vascular lesions of the brain
according to data of Voronezh polyclinics. Trudy Ver. med. inst.
51:38-42 '63. (MIRA 18:10)

Investigation of the Melting Process in a 300-Ton Open-Hearth Furnace. L. Vladimirov and G. Bezkhmen'nikskaya. (Stal, 1938, No. 5, pp. 38-41). (In Russian). Statistical data on the operation of a 300-ton open-hearth furnace at the Kuznetskiy works are presented and discussed. Owing to inadequate charging equipment, charging takes a comparatively long time (80-120 min.). The heating-up period (the time between the completion of the charging and the addition of the molten pig iron) varied between the comparatively wide limits of 1 hr. and 4½ hr., but was generally 2-2½ hr. The melting period (the time from the addition of the pig iron to the commencement of boiling) was generally between 0 and 8 hr., but in some cases periods of 4 and 11 hr. were recorded. Boiling took 2-3 hr. (up to 4 hr. in some cases), the carbon generally being removed at the rate of 0.0014-0.0028% per min. The results of the investigation showed that both the efficiency of the furnace as regards output and the quality of the metal were better when the rate of carbon removal was high. In conclusion, a general summary of the outputs and operating periods during the investigation is given.

ASB-LSA METALLURGICAL LITERATURE CLASSIFICATION									
STANDARD REFERENCE		TELETYPE M/T ONLY OUT		TELETYPE IN		STANDARD		TELETYPE M/T ONLY IN	
SEARCH #	SEARCH #	SEARCH #	SEARCH #	SEARCH #	SEARCH #	SEARCH #	SEARCH #	SEARCH #	SEARCH #
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S/109/61/006/008/010/018
D207/D304

AUTHORS: Der-Shvarts, G.V., Kushnir, Yu.M. Rozonfel'd, L.B.,
Zaytsev, P.V., Bezlenkin, S.V., Trutneva, I.S.,
Belenkiy, S.A., Titov, L.A.

TITLE: Certain problems of reflex electron microscopy

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 8, 1961,
1358 - 1364

TEXT: This paper was presented at the 3rd All-Union Conference
on electron microscopy, Leningrad, October 1960. The present article
describes an electron reflex microscope based on the design by
Ch. Part, R. Martv. R. Sanorte (Ref. 1: C. r. Acad. Sci. 1955, 240,
20, 1975) who have shown that by tilting the illumination system
by 15 - 20° in a reflex microscope, a good image may be obtained
with small deformation of the scale and a large useful image area.
The main deficiency of such a system in an electron microscope is
the chromatic aberration; the aberration can be reduced, by reduc-

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Certain problems of reflex ...

ing the diaphragm aperture of the objective which in turn reduces considerably the picture illumination. In the described microscope the increased illumination was obtained by designing a more effective electron gun and by utilizing a light intensifier. Since the definition of a reflex microscope is determined by the diaphragm of the objective, which means that in an electron microscope the efficiency of the electron gun is determined not by electron brightness but by the current density of the sample, several types of gun were investigated; it was found that triple electrode guns of special construction produce a much greater current density than the standard guns normally used in electron microscopes. The special feature of such a gun is the conical shape of the focussing electrode. The dependence of current density j at the cross-over point of the anode current was determined for electrode angles α of 60° , 90° and 120° with depth of penetration h of the tip of the cathode filament (filament dia. 0.12 mm) with respect to the cone apex, as a parameter for maximum current density at $U = 60$ kV. The temperature of the cathode was 2800°K . The optimum results obtained are

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shown. For an electrode with angle $\alpha = 120^\circ$, $h = 0.5$ mm; for $\alpha = 90^\circ$ and 60° , $h = 1.5$ mm. For comparison $j = f(I_a)$ is also drawn for the normal electron gun YEM-100 (VIM-100), in which the tip of the filament is 0.75 mm above the focussing electrode. It may be seen that for $\alpha = 120^\circ$ the current density is increased by approximately 4.6 times with a current of 250 μ A and 7 times with a current of 500 μ A. The electron gun is mounted in the illumination system of the microscope. The gun is introduced through a jacketed port and can be mechanically rotated through any angle from 0° to 220° measured on a vernier scale. The electron optical magnification of the microscope is $\times 2500$, resolution about 500 Å. The authors also undertook theoretical analysis of the influence on the definition of imperfect assembly and shape of magnet cores. Since the picture is formed by electrons undergoing considerable delections, the axial deformation of the magnet slots and errors in their axial positioning produce a constant magnetic field near the axis and perpendicular to it. Such a field has analyzing properties and may introduce chromatic aberration. The evaluation of such aberrations requires the determination of the corresponding pertur-

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D207/D304 X
Certain problems of reflex ...

bation potentials, normally evaluated by Bertein's method. It may be shown, however, that this method does not determine the exact boundary conditions necessary for solving the problem of the Laplace equation for perturbation potentials. This problem may be solved exactly only when it is assumed that the perturbation is very small. The modified Mathieu functions may be then reduced to the sums of Bessel functions, whose terms are multiplied by the parameter of the Mathieu equation. In their analysis the authors concluded that there is no general method for evaluating the perturbation potentials and used the integral of an ordinary layer to determine them in the near axial region. The details of the analysis are not given. The poles used had the geometrical form with s/d ratio of 1.5 [Abstractor's note: Symbols d and s not defined]. The authors also investigated the filter lenses in an attempt to increase the resolution of the reflex microscope. In their analysis [Abstractor's note: Details not given] they used the mathematical model of single electrostatic lenses of W. Glaser and P. Schiske (Ref. 13: Optik, 1954, 11, 9, 422; 1954, 11, 10, 455; 1955, 12, 5, 233) and of R. Rüdenberg (Ref. 14: J. Franklin Inst. 1948, 246, 4,

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246%

Certain problems of reflex ...

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D207/D304

311, 246, 5, 377). The analysis showed [Abstractor's note: Details not given] that the resolution of the lens is basically limited by the fact that non-axial achromatic electrons are being focussed in different planes. With an energy spread of electrons of the order of 5-6 eV a background is, therefore formed in which the picture disappears. There are 10 figures, 5 Soviet-bloc and 9 non-Soviet-bloc references. The references to the 4 most recent English-language publications read as follows: M.E. Haine, P.A. Einstein, Brit. J. Appl. Phys. 1952, 3, 2, 40; P.A. Sturrock, Philos. Trans. Roy Soc. London, A, 1951, 243, 368, 387; G.D. Archard, J. Scient. Instrum. 1953, 30, 10, 353; R. Rudenberg, J. Franklin Inst., 1948, 246, 311; 246, 5, 377.

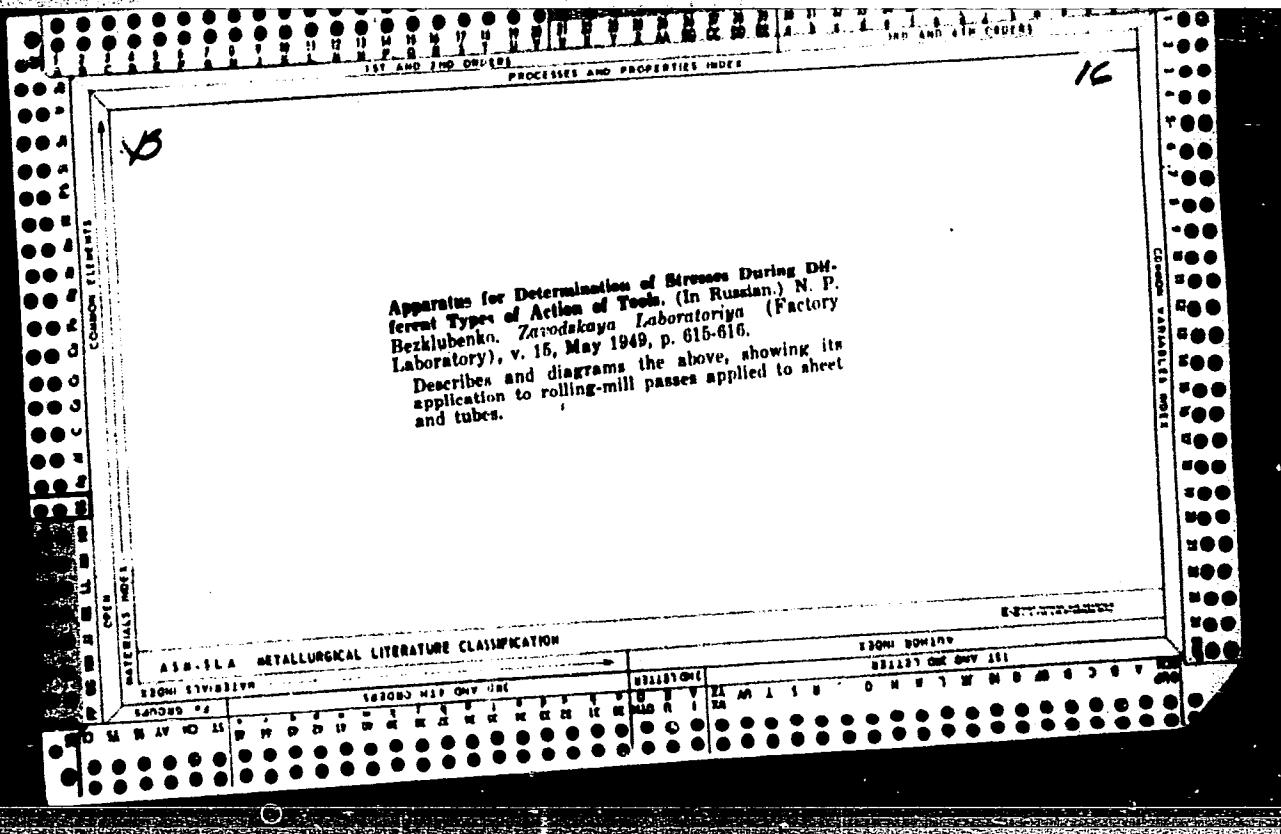
SUBMITTED: February 7, 1961

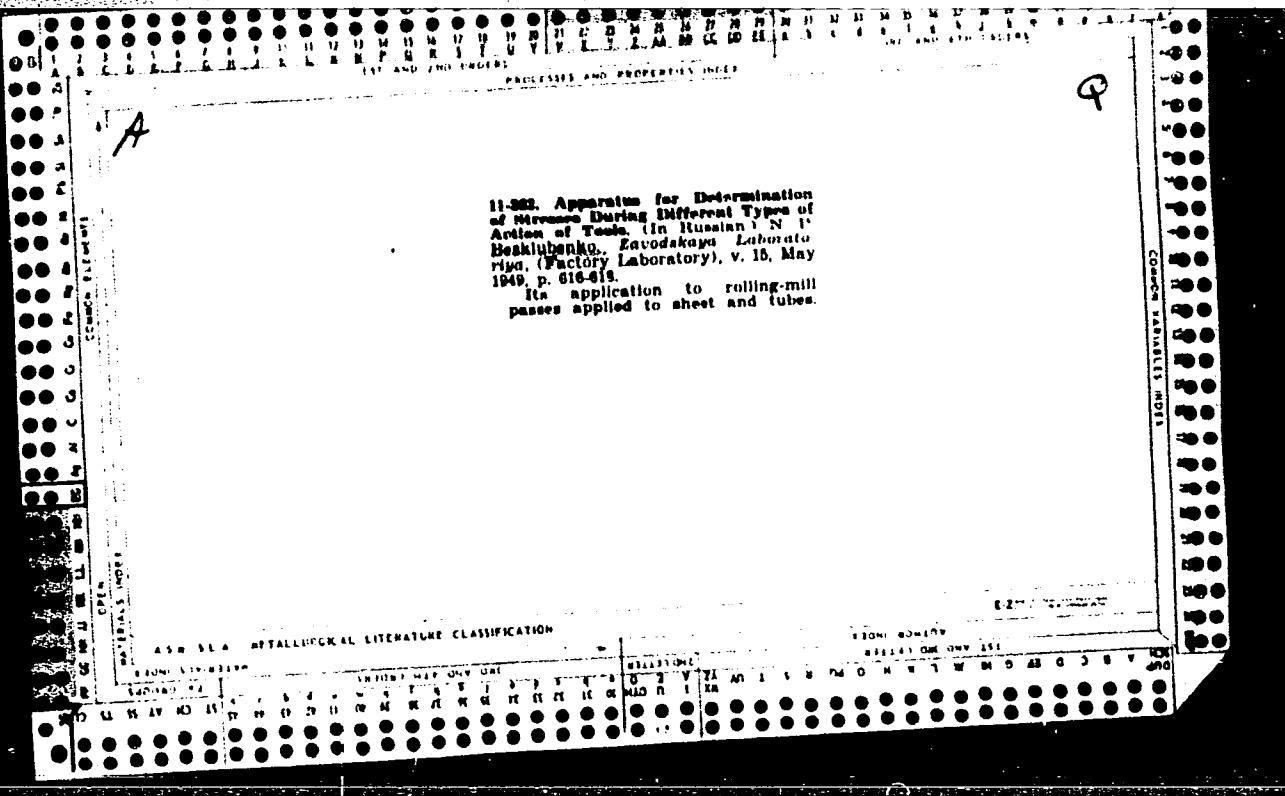
X
Card 5/5

Bu. also.

O-y General Tech Lab App
(General) (Physical)

1740. Apparatus for measurement of stress. N. P. Brashlubenko
(Zavod. Lab., 1948, 14, 1405-1409; J. Iron Steel Inst., 1949, 180).—A simple, dynamometer-type apparatus for measuring stress
in experiments on deformation is described. Though capable of giving accurate results, there is no provision for automatic recording.
M. B. CLARKE.





BEZKLUBENKO, N.P. kand.tekhn.nauk

Method of "corresponding sections" for periodic pass rolling
of pipes. Obr.met.davl. no.3:153-163 '54. (MIRA 12:10)
(Rolling (Metalwork)) (Pipe, Steel)

AKIMOVA, K.I.; BAZHENOV, M.F.; BAKHVALOV, G.T.; BEZKLUBENKO, N.P.; BERMAN, S.I.;
BOGDANOV, Ye.S.; BODYAKO, M.N.; BOYKO, B.B.; VINOGRADOV, S.V.;
GAGEN-TORN, K.V.; GLEK, T.P.; GOREV, K.V.; GRADUSOV, P.I.; GUSHCHINA, T.N.;
YEMEL'YANOV, A.K.; YESIKOV, M.P.; ZDZYARSKIY, A.V.; ZAKHAROV, M.V.;
ZAKHAROVA, M.I.; KARCHEVSKIY, V.A.; KOMAROV, A.M.; KORZHENKO, O.T.;
LAYMER, V.I.; MAL'TSEV, M.V.; MILLER, L.Ye.; MILOVANOV, A.I.;
MIRONOV, S.S.; NIKONOROVA, N.A.; OL'KHOV, N.P.; OSIPOVA, T.V.;
OSOKIN, N.Ye.; PERLIN, I.L.; PIAKSIN, I.N.; PROKOF'YEV, A.D.;
RUMYANTSEV, M.V.; SEVERENKO, V.P.; SEREDIN, P.I.; SMIRYAGIN, A.P.;
SPASSKIY, A.G.; TITOV, P.S.; TURKOVSKAYA, A.V.; SHAKHNAZAROV, A.K.;
SHPICHINETSkiy, Ye.S.; YURKSHTOVICH, N.A.; YUSHKOV, A.V.;
YANUSHEVICH, L.V.

Sergei Ivanovich Gubkin. TSvet.met. 28 no.6:60-61 N-D '55. (MIRA 10:11)
(Gubkin, Sergei Ivanovich, 1898-1955)

137-58-4-7110

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 115 (USSR).

AUTHOR: Bezklubenko, N. P.

TITLE: Simulation of the Process of Extrusion on Lead Specimens of Various Hardnesses (Modelirovaniye protsessa pressovaniya na svintsovyykh obraztsakh razlichnoy tverdosti)

PERIODICAL: Tr. Gos. n.-i. i proyektn. in-ta po obrabotke tsvetn. met., 1957, Nr 17, pp 96-104

ABSTRACT: An investigation of the extrusion (E) of composite Pb specimens with differing longitudinal plastic properties showed that it was possible to obtain under laboratory conditions results approximating those in actual production. It also showed the need for careful and uniform heating of the blanks for E so as to obtain dependable data both as to the nature and as to the magnitude of the pressures, and also relative to the possibility of obtaining reliable data on the measurement of the pressure during E in accordance with the temperature of heating along the length of the bar.

Card 1/1 1. Lead--Extrusion--Processes

Ye. L.

ZINOV'YEV, N.V.; BEZKLUBENKO, N.P., kand.tekhn.nauk, red.; GAVRIN,
P.N., tekhn.red.

[Centrifugal casting of iron pipes] Tsentrobezhnaia otlivka
chugunnykh trub. Pod red. N.P.Bezklubenko. Moskva, Vses.in-t
neuchn.i tekhn.informatsii, 1958. 75 p. (MIRA 12:9)
(Centrifugal casting)

Report presented at the 1st All Union Congress of Theoretical and Applied Mechanics,
Moscow, 27 Jan - 3 Feb '60.

1. A. N. Gentil (Chairman) : On the theory of plates and shells for applying
boundary conditions to the boundary of thermo-plastic solids.
2. Yu. A. Il'yushin (Chairman) : Solution of vibrational effects.
3. S. I. Krasnopol'skii (Chairman) : The theory of circular
helical waves in isotropic and anisotropic media.
4. V. G. Krylov (Chairman) : Stability of shells under dynamic loading.
5. Yu. A. Kuznetsov (Chairman) : Some relations between the
mathematics of plates and experimental problems in the theory
of elasticity.
6. Yu. A. Kuznetsov (Chairman) : Experimental identification
of some elastico-plastic processes by means of photoelastic
methods.
7. Yu. A. Kuznetsov (Chairman) : Plasticity. (Chairman-Director): Some
problems of plasticity have been treated.
8. Yu. A. Kuznetsov (Chairman) : Relyability. (Chairman-Director): Some
problems of reliability have been treated.
9. Yu. A. Kuznetsov (Chairman) : Probabilistic methods of equal
strength. (Chairman): Probabilistic methods of equal
strength.
10. Yu. A. Kuznetsov (Chairman) : Anisotropic vibrations of an elastic
shell on plates.
11. Yu. A. Kuznetsov (Chairman) : On the theory of anisotropic
shells on plates.
12. Yu. A. Kuznetsov (Chairman) : On the theory of anisotropic
shells on plates.
13. Yu. A. Kuznetsov (Chairman) : On the theory of plates. (Chairman): Some
problems of plates and shells.
14. Yu. A. Kuznetsov (Chairman) : Probability analysis of a reinforced
concrete shell under static loads.
15. Yu. A. Kuznetsov (Chairman) : Probabilistic methods of reliability
of shells under dynamic loads.
16. Yu. A. Kuznetsov (Chairman) : On the theory of shells. (Chairman): Some
problems of shells.
17. Yu. A. Kuznetsov (Chairman) : Probabilistic methods of reliability
of shells under dynamic loads.
18. Yu. A. Kuznetsov (Chairman) : The plane contact problem on the
theory of plates.
19. Yu. A. Kuznetsov (Chairman) : Some problems in the propagation (theory)
of waves in anisotropic plates and shells.
20. Yu. A. Kuznetsov (Chairman) : Some problems in the propagation (theory)
of waves in anisotropic plates and shells.
21. Yu. A. Kuznetsov (Chairman) : The general solution of the problem
of shells under static loads.
22. Yu. A. Kuznetsov (Chairman) : The theory of equilibrium states
of shells.
23. Yu. A. Kuznetsov (Chairman) : Mathematical properties of rubber-like
shells.
24. Yu. A. Kuznetsov (Chairman) : Some problems of anisotropic shells
under dynamic loads.
25. Yu. A. Kuznetsov (Chairman) : Some problems of temperature distributions
in plates and shells.
26. Yu. A. Kuznetsov (Chairman) : Temperature distributions in
anisotropic plates and shells.
27. Yu. A. Kuznetsov (Chairman) : Some problems of shells under dynamic
loads.
28. Yu. A. Kuznetsov (Chairman) : The use of direct
numerical methods for solving nonlinear problems in the theory
of plates and shells.
29. Yu. A. Kuznetsov (Chairman) : Dynamic displacement continuations.
30. Yu. A. Kuznetsov (Chairman) : On solving inverse contact problems with
elastoplastic shells of elasticity.
31. Yu. A. Kuznetsov (Chairman) : Some problems of plates and shells
under dynamic loads.
32. Yu. A. Kuznetsov (Chairman) : Some problems of plates and shells
under dynamic loads.
33. Yu. A. Kuznetsov (Chairman) : Strength and damage under static or
dynamic loads.

BEZKLUBENKO, N.P. (Moskva)

Temperature distribution in metals subjected to pressing. Inzh.-
zhur. 1 no.2:193-199 '61. (MIRA 14:12)
(Forging) (Metals--Testing)

TYKVA, P.; BEZKARAVAYNYY, A.

Manufacture of prestressed concrete elements. Prom.stroi. i
inzh. soor. 4 no.4:49-53 Jl-Ag '62. (MIRA 15:9)
(Prestressed concrete)

BEZKOROVAYNAYA, Z. G.

Pharmaco-dynamic effect of vitamin C in Botkin's disease.
Klin. med., Moskva 29 no.7:55-58 July 1951. (CLML 20:11)

1. Of the Propedeutic Therapeutic Clinic, Leningrad Sanitary-Hygienic Medical Institute (Head -- Prof. S. M. Ryss), Leningrad.

BEZKOROVAYNAYA, Z. G.

BEZKOROVAYNAYA, Z. G.: "The role of water-soluble vitamins
in regulating liver functions." Min Health RSFSR.
Leningrad Sanitary-Hygiene Medical Inst. Leningrad, 1956.
(Dissertation for the Degree of Doctor in Medical Sciences)

So: Knizhnaya letopis' No. 38, 1956. Moscow

BEZ KOROVAYNAYA, Z.G.

Study of the positive action of water-soluble vitamins on liver function
in various subjects. Trudy ISGMI 50:36-49 '58. (MIRA 12:1)

1. Kafedra propedevtiki vnutrennikh zabolevaniy (zav. - prof. S.M. Ryss)
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.
(VITAMINS, effects

water soluble vitamins on liver funct. in various dis.,
mechanism of action (Rus))

(LIVER, physiology

eff. of water soluble vitamins on liver funct. in various
dis., mechanism (Rus))

BEZKOROVAYNAYA, Z.G.

The lipotropic action of vitamin B₁₂ and choline. Trudy ISQMI 50:143-150'58.
(MIRA 12:1)

1. Kafedra propedevtiki vnutrennikh zabolevaniy (zav. - prof. S.M. Ryss)
Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta.

(VITAMIN B₁₂, effects

on blood lipids & cholesterol in infect. hepatitis (Rus))

(CHOLINE, effects

same)

(HEPATITIS, INFECTIOUS, blood in

cholesterol & lipids, eff. of admin. of choline & vitamin
B₁₂ (Rus))

(CHOLESTEROL, in blood

eff. of choline & vitamin B₁₂ admin. in infect. hepatitis
(Rus))

BEZKOROVAYNAYA, Z.G.

Activity of aspartic aminopherase in liver diseases. Trudy LSGMI
no.69:73-80 '61. (MIRA 15:11)

1. Kafedra propedevtiki vnutrennikh zabolеваний Leningradskogo
sanitarno-gigiyenicheskogo meditsinskogo instituta (zav. kafedroy
chlen-korrespondent AMN SSSR prof. S.M.Ryss).
(LIVER—DISEASES) (ASPARTIC TRANSAMINASE)

1. MARKOVSKIY, F. T.; BEZKOROVAYNYI, G. P.
2. USSR (600)
4. Ukraine--Wind Power
7. Variants in the utilization of energy from the wind on the territory of the Ukrainian SSR, Trudy Inst. tepl. AN URSS, No. 6, 1952.
9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

BEZKOROVAYNY, M.

Young trees for forest nurseries. Zhil. kom. khoz. 5 no.2:
17-18 '55. (MLRA 8:6)

1. Glavnny sadovod Vyborgskogo kombinata Upravleniya ozele-
neniya Lengorispolkoma.
(Forest nurseries)

BEZKOROVAYNYY, M. F.

37420. Razmnozheniye Dikogo Vinograda Posevom Drevesnykh Cherenkov. V. Sb:
Zelenoye Stroit-vo. L., 1949, s. 101-03.

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

COUNTRY : USSR
CATEGORY : Forestry. Forest Cultures.
X
ARM. JOUR. : RZhBiol., №.13 1958, №. 104563
AUTHOR : Bezkorovaynyi, M. F.
TITLE : ---
Hybrid Poplars in the Leningrad Oblast

PAIR. PUBL. : Lenn. kh-vo, 1958, No. 3, 82

ABSTRACT : The hybrids (10) showing hardiness in Leningrad oblast cultures, set out by cuttings, are enumerated.--L. N.

Card: 1/1

GULAK, Yu.K.; BEZKOSTNYY, I.D.

GULAK, Yu.K.; BEZKOSTNYY, I.D.
Observing the solar eclipse of June 30, 1954, in Mikhnevtsy,
Poltava Province. Biul.VAGO no.20:51-54 '57. (MLRA 10:8)

1. Sunskij gosudarstvennyy pedagogicheskiy institut.
(Eclipses, Solar--1954)

BEZKROVNYY, A.M. [Bezkrovnyi, O.M.]; SUKACHOVA, O.A.

Histological analysis of the gonads of whitefish from Lake Peipus
acclimatized in reservoirs of Kharkov Province. Dop. AN URSR no.1:
88-92 '59. (MIRA 12:3)

1. Khar'kovskiy gosudarstvennyy universitet. Predstavil akademik AN
USSR I.N. Bulankin [A.M. Bulankin].
(Kharkov Province--Whitefishes) (Generative organs)

BEZKROVNYY, A.M. [Bezkrevnyi, O.M.]; SUKACHOVA, O.A.

Histological analysis of the winter and spring-summer periods in
the development of the gonads of Lake Peipus whitefish in waters
of Kharkov Province. Dop. AN URSR no.2:214-217 '60. (MIRA 13:6)

1. Khar'kovskiy gosudarstvennyy universitet. Predstavлено
akademikom AN USSR I.N.Bulankinym [I.M.Bulankinym].
(Kharkov Province--Whitefish)
(Generative organs)

BEZKROVNYY, R.P. [Bezkrovnyi, R.P.], ~~mayor~~ meditsinskoy sluzhby

Portable apparatus for preparing injection solutions by
the aseptic method. Farmatsev. zhur. 17 no.1:77-79 '62.
(MIRA 15:6)

(INJECTIONS)
(PHARMACY--EQUIPMENT AND SUPPLIES)